

THE ROLE OF SEED SYSTEMS IN THE ADOPTION OF IMPROVED FORAGES: THE COLOMBIAN CASE

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Introduction

- » Forage improvement processes began in Latin America in the 1980s and resulted in the release of new cultivars and hybrids, superior in terms of productivity, sustainability and adaptability.
- » Increasing the adoption rate of these technologies stands as one of the most promising strategies for the sustainable intensification of cattle production in the tropics.
- » In Colombia, 22 cultivars have been released (through formal channels) since then, most of them specifically aimed for the country's tropical lowlands (0-1200 m.a.s.l.).
- » While positive impacts are found and documented within productive systems implementing these technologies, adoption rates remain low.

Objective

To evaluate the roles and dynamics of both Research & Development (R&D) institutions and seed supply companies as potential explicative factors behind the processes of adoption and diffusion of forage technologies.

Methodology

- » To identify the functioning of diffusion and adoption processes: Literature review, database review and focus group discussions with key stakeholders (research and development centers, seed suppliers, producers and government agencies, among others).
- » To identify bottlenecks, challenges and opportunities: semi-structured interviews with key scholars from research centers.

Results

- » Co-existence of both a formal and an informal forage seed system in Colombia.
- » The formal seed system is dominated by importers of botanic seed (Figure 1) mainly from Brazil (*Urochloa* and *Megathyrsus* varieties), Mexico (*Urochloa* hybrids), USA and Canada (Ryegrass, Alfalfa, Festucas, Pasto Azul and Trébol varieties).
- » The hybrid market (*Urochloa* spp. hybrids) represents less than 2% of the total forage seed market in Colombia. Hybrids marketed are Cayman (75%) and Mulato II (25%), *Urochloa* hybrids.
- » Seed imports to Colombia showed a growth rate of 8% between 2009 and 2018.
- » The informal seed system mainly includes forage materials that are propagated among cattle producers.
- » Differences in visions and objectives between R&D institutions and seed suppliers create distortions in the diffusion process.
- » Duplicated efforts, investments, and differences in communication strategies result in deficient process optimization: e.g. simultaneous promotion of forage technologies by both R&D institutions and seed companies create confusion in producer knowledge.
- » Failed releases: seeking to fulfill commitments, R&D institutions often release varieties even when the multiplication and seed distribution processes have not been coordinated. The offer of commercial seed is not always guaranteed having an effect on training capacities and adoption processes.

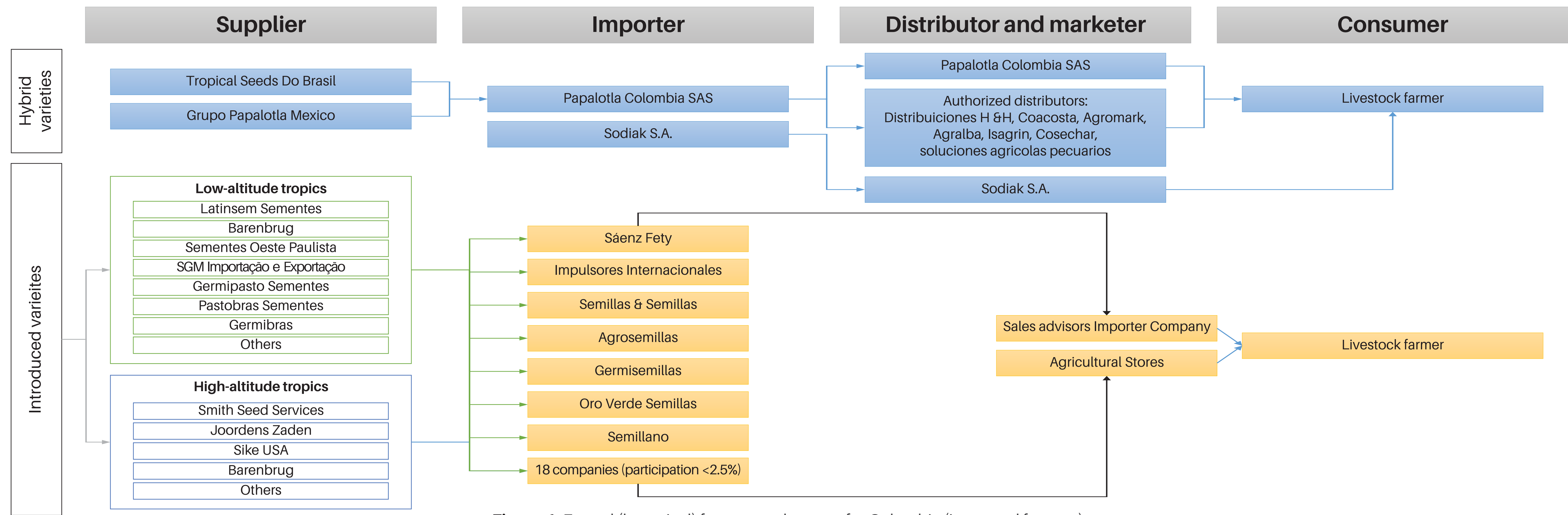


Figure 1. Formal (botanical) forage seed system for Colombia (improved forages).

Conclusions

- » There is a lack of cohesion between R&D institutions and seed supply companies, resulting from diverging goals and means of financing.
- » There exist complex dynamics behind forage technology dissemination, underscoring the critical role a well-established synergy between institutions could have for effectively contributing to overcome bottlenecks regarding technology adoption.

- » Articulation between R&D institutions, forage seed distributors and other actors that are part of the national strategies for sustainable livestock needs to be encouraged in order to improve technology dissemination, create better communication strategies and foster adoption levels among technology end-users.
- » It is crucial to search collaboration with the livestock extension system at the beginnings of technology development and promotion. Closer communication between the extension and innovation systems related to improved forages can help increasing adoption levels and the impact of seed technologies.

References

Enciso, K; Triana, N; Díaz, MF; Burkart, S. 2019. Limitations and opportunities in the process of adoption and dissemination of forages technologies in Colombia [Preliminary report]. International Center for Agricultural Tropical (CIAT), Cali, Colombia. 86 p.

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